ABSTRACT

A Coriolis mass flow sensor includes a flow tube, a light source, and a light pipe having a light inlet situated to receive light from the light source and a light outlet for emitting light received from the light source. A light detector receives light from the light pipe light outlet, and a drive device vibrates the flow tube such that the flow tube moves through a light path between the light outlet of the light pipe and the light detector. In certain embodiments, the light pipe defines a generally square cross section. A sensing aperture having a predetermined shape is situated between the light outlet of the light pipe and the light detector. The sensing aperture passes a portion of the light emitted from the light outlet of the light to the light detector, such that the light entering the light detector has the predetermined shape.